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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4401

JUN 27 1994

SUBJECT: Approval of Request for Funding
for a Removal Action
United Chemical Technologies Site
Bristol, Pennsylvania

FROM: Peter H. Kostmayer *Peter Kostmayer*
Regional Administrator (3RA00)

TO: Elliot P. Laws, Assistant Administrator
Office of Solid Waste and Emergency Response (5101)

THRU: Henry L. Longest, II, Director
Office of Emergency and Remedial Response (5201)

ATTN: Deborah Y. Dietrich, Director
Emergency Response Division (5202)

ISSUE

The attached CERCLA Funding Authorization pertains to the United Chemical Technologies Site in Bristol, Bucks County, Pennsylvania (Site). Funding in the amount of \$950,000 is required to abate the threat to public health and welfare and the environment posed by the potential for continued release of hazardous substances, including ethyl trichlorostilane and styrene, into the environment. The On-Scene Coordinator has determined that the Site meets the criteria for conducting a Removal Action under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR 300.415. Pursuant to Delegation of Authority 14-1-A giving the Regional Administrator authority to approve CERCLA funding requests with a total cost of less than \$2 million, Region III has approved an Estimated Project Ceiling and funds in the amount of \$950,000, of which approximately \$850,000 are Extramural Costs.

Attachment: Request for Funding

AR100021

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

JUN 27 1994

SUBJECT: Request for Funding for a Removal Action
United Chemical Technologies Site
Bristol, Bucks County, Pennsylvania

FROM: Michael Towle, On-Scene Coordinator
Eastern Response Section (3HW31)

Mary Crystall, for M. Towle

TO: Peter H. Kostmayer
Regional Administrator (3RA00)

THRU: Abraham Ferdas, Associate Division Director
for Superfund Programs (3HW02)

ABF

I. ISSUE

A removal site assessment completed on June 22, 1994, by the On-Scene Coordinator (OSC) in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, has identified an imminent and substantial threat to the public health, welfare and the environment posed by the presence of drums, tanks, vessels, and pooled water containing hazardous substances located at the United Chemical Technologies, Inc. Site ("Site") in Bristol, Bucks County, Pennsylvania. The Site was the scene of an explosion and fire which destroyed a large portion of the facility and triggered the need for an emergency response and large scale evacuation on June 21, 1994. The explosion was apparently triggered by an uncontrolled reaction between ethyl trichlorosilane and styrene, which are hazardous substances within the meaning of Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended, 42 U.S.C. Section 9601(14), since they are listed as hazardous substances at 40 CFR 302.4. The building structure was rendered unstable by the explosion and fire and some of the containers of hazardous substances were severely damaged and are located within the area of the building which is now threatening to collapse. These conditions pose a significant threat of further releases of hazardous substances into the environment. The possibility of subsequent uncontrolled chemical reactions still exists at the Site, as water-reactive chemicals are surrounded by water and some damaged chemical containers are leaking. The possibility of spontaneous fires at this Site continues. The threats posed to public health are primarily posed through the inhalation and ingestion pathways.

AR100022

To address these threats, this Action Memorandum requests funding in the amount of \$950,000, of which \$750,000 are Extramural Costs, to conduct a Removal Action. The Removal Action will stabilize the various chemicals and hazardous substances within the building, thereby preventing the potential for additional exposures to nearby populations. Additionally, the proposed actions include a determination of the extent of contamination created by the fire, explosion and release of hazardous substances, and associated clean-up work if required.

The Site is not on the NPL. No precedent-setting issues are associated with these proposed actions.

II. BACKGROUND

A. Site Description

The United Chemical Technologies Inc. Site is located at the end of Bartram Road in the Keystone Industrial park in Bristol Township, Bucks County, Pennsylvania. The surrounding area is primarily industrial. Major highways (Route I-95, Route 413, and the Pennsylvania Turnpike) are within 1 mile of the Site. An apartment complex and several residential dwellings are located within 1/2 mile of the Site. The Site is a chemical processing facility.

At approximately 1200hrs on June 21, 1994, a fire and explosion occurred in the rear (northwest) portion of the facility, apparently triggered by an uncontrolled reaction between two chemicals (ethyl trichlorosilane and styrene). The exact cause is still under investigation. Fire and rescue departments from several area jurisdictions responded to control the fire and to free entrapped plant employees. Bucks County Emergency Services and local and State police personnel coordinated an evacuation of employees and residents within 1/2 mile of incident and closed I-95 and the Pennsylvania Turnpike. Area hazardous material incident response teams initiated an investigation into the remaining chemicals within the plant, the stability of the building structure, and the potential for additional fires and explosions at the facility. At the request of Bucks County officials, EPA conducted air monitoring around the facility and the EPA On-Scene Coordinator assisted with the hazardous materials investigation effort.

Inspection of the facility after the fire was under control revealed that the building structure was severely damaged and could collapse. Several containers of potentially hazardous materials which had been involved in the fire were located in the area of the collapsed portion of the building. Other tanks and vessels had been damaged and were releasing their contents. A large amount of dielectric oil was released from a cooling system and was pooled throughout the plant. Runoff from the fire-fighting effort was pooled in several bermed areas behind the plant. Cartons of water-reactive chemicals were apparently reacting with pooled water from

AR100023

the fire-fighting effort. Some pressurized vessels were leaking.

At 18:00hrs on June 21, 1994, the local residents who were evacuated by the County Emergency personnel were allowed to return home since the threat of additional significant explosions and fires were believed to be minimal. The condition of the building and the status of the chemical inventory was communicated to the building owner. At 19:00hrs, on June 21, 1994, United Chemical Technologies, Inc. and their cleanup contractor began cleanup efforts.

At 12:30hrs on June 22, 1994, PADER requested that EPA assume lead oversight responsibility of the cleanup of the facility. At 13:00hrs, Bucks County officials requested the same.

B. Quantities and Types of Substances Present

Company officials reported that the explosion and fire were apparently triggered by an uncontrolled reaction between ethyl trichlorosilane and styrene. These chemicals are hazardous substances within the meaning of Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C. Section 9601(14), since they are listed as hazardous substances at 40 CFR 302.4. These chemicals were being mixed in a large drum. The explosion and fire caused the release of these and other unknown hazardous substances within the building and possibly into the air in the smoke from the fire. There remains numerous drums and other vessels of hazardous substance onsite, and pooled water from the firefighting effort contained in bermed areas of the Site contain unknown mixtures of hazardous substances.

C. National Priorities List Status

The Site has not been evaluated for listing on the National Priorities List (NPL). Information from the Removal Action will be forwarded to the Site Assessment Section for future listing consideration.

D. State and Local Authorities' Roles

The Commonwealth of Pennsylvania Department of Environmental Resources (PADER) participated during the emergency response by providing an on-scene representative. PADER requested on June 22, 1994, that EPA provide resources to oversee the Site cleanup since the Department did not have the resources to conduct this activity. Officials and representatives from many local area jurisdictions, including Bucks County Emergency Services, Bucks County Health Department, Newportville Fire Department, Bristol Fire Department, Bristol Police, PA State Police, and others, contributed resources and personnel to conduct and assist with the emergency response. Bucks County Health Department has assumed some responsibility for oversight of the cleanup operation, but requested EPA assistance. The OSC will coordinate Site activities with all appropriate State

and local officials.

III. THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

Section 300.415 of the NCP (40 CFR 300.415) lists the factors to be considered in determining the appropriateness of a Removal Action. Paragraphs (b)(2)(i), (ii), (iii), (v), (vi) and (vii) of Section 300.415 directly apply as follows to the conditions at the United Chemical Technologies, Inc. Site:

- A. 300.415 (b)(2)(i) "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants."**

The Site is situated near residential areas which had been evacuated during the fire event due to the threats posed by chemical exposure. Until the hodgepodge of hazardous substances including styrene and ethyl trichlorosilane remaining in the destroyed and unstable facility are stabilized and removed, the threat of exposure to nearby residents via inhalation remains. Additionally, a large quantity of pooled water from the fire-fighting effort, which contains mixed hazardous materials and an oily material, and leakage from various containers of unknown hazardous substances poses the continued threat of release of into adjacent waterways flowing to the Neshaminy Creek and ultimately into the Delaware River. Ethyl trichlorosilane and styrene, which were likely released during the initial explosion at the facility, are hazardous substances within the meaning of Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C. Section 9601(14), since they are listed as hazardous substances at 40 CFR 302.4.

- B. 300.415 (b)(2)(ii) "Actual or potential contamination of drinking water supplies or sensitive ecosystems."**

Pooled water apparently containing hazardous substances has entered drains and bermed areas within the facility. This contaminated water can potentially enter nearby surface water or ground water. Bucks County Health Department personnel have indicated that some drinking water wells exist in the area. These wells and nearby waterways are threatened by the potential release of hazardous substances from the damaged facility.

- C. 300.415 (b)(2)(iii) "Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release."**

An unknown quantity of drums, tanks, cylinders and other containers of chemicals, containing and likely containing hazardous substances, were damaged or likely damaged during the explosion and

fire at the facility. Some of these containers have already leaked contents into the pooled water resulting from the fire-fighting effort as oily material is plainly visible. At least one cylinder is known to have released some of its contents. At least some of these containers are known to contain styrene, bromine, ethyl trichlorosilane, and methanol based upon facility personnel, MSDS sheets, and Site investigations during the emergency response by HazMat personnel.

- D. 300.415 (b)(2)(v) "Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released."

The roof and walls of the United Chemical Technologies, Inc. facility were severely damaged during the explosion and fire. Many of the drums, vessels, cylinders, and other containers in the building, as well as the pooled water within the building, are now exposed to the weather. Rains could cause or contribute to the migration of hazardous substances.

- E. 300.415 (b)(2)(vi) "Threat of fire or explosion."

An uncontrolled reaction reported between ethyl trichlorosilane and styrene was the apparent trigger to an explosion and fire at the facility. A number of drums, tanks, vessels, cylinders, and other containers were damaged or potentially damaged during the explosion. Evidence of the damaged containers is seen in the reaction of chemicals with pooled water, release of vapors from damaged cylinders, individual drum fires, and oily material on pooled water. Until a complete evaluation of the remaining chemical containers is made and any damaged containers fully stabilized, there is a continued threat of fire and explosion.

- F. 300.415 (b)(2)(vii) "The availability of other appropriate federal or state response mechanisms to respond to the release."

The Pennsylvania Department of Environmental Resources requested EPA to conduct oversight of the Site cleanup since they do not have the resources to conduct that activity. Bucks County Health Department requested EPA assistance in conducting oversight of the Site cleanup since they do not have the resources to fully complete that activity. Although the Site lies within the coastal zone, the on-scene U.S. Coast Guard representative and the EPA OSC agreed that EPA will take the lead for this Site.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the proposed response actions identified in this Action Memorandum, will continue to present an imminent and substantial endangerment to public health, or welfare, or the environment.

AR100026

V. PROPOSED ACTIONS AND COSTS

A. Actions

The actions proposed for this Site are designed to mitigate the immediate threat posed to area residents and the environment via potential exposure to hazardous substances released from the Site via the identification and stabilization of all hazardous substances within damaged containers, within pooled water, and within areas of the building prone to collapse. The proposed actions are as follows:

- Mobilize personnel and equipment to Site.
- Provide Site security, as needed, including temporary and/or permanent fencing and 24-hour security service.
- Assist and conduct investigation, sampling and analysis to better delineate areas and containers of hazardous substances and the condition of those areas and containers with regard to assuring protection of human health and the environment from threats posed by those chemicals.
- Determine the stability of the building, areas of hazardous substances at the Site, and containers of hazardous substances within the area of the building prone to collapse.
- Stabilize all areas containing hazardous substances and containers of hazardous substances and all pollutants and contaminants that could react with the hazardous substances to prevent release of these substances due to damaged containers or building collapse or release of pooled water and stage them in a manner to minimize threats to public health and the environment.
- Arrange for and conduct transportation and disposal of those hazardous substances that are not assured of being of sufficient purity and integrity suitable for continued safe use in Site manufacturing operations.
- Take all measures necessary and appropriate to assure that all building structures do not contribute to the potential release of hazardous substances from the Site.
- Conduct appropriate sampling and monitoring.
- Collect and analyze samples to delineate full extent and spread of contamination resulting from the fire and explosion.

At this time it is anticipated that the project will not run longer than the statutory 12-month time limit for Removals.

AR100027

B. Estimated Costs

Estimated costs associated with the proposed actions are itemized in Table 1.

TABLE 1 -- ESTIMATED COSTS

Extramural Costs

Regional Allowance Costs, ERCS	\$750,000
Other Extramural Costs	
TAT	\$ 75,000
Other	\$ 25,000
<u>Total Extramural Costs</u>	<u>\$850,000</u>

Intramural Costs

EPA Direct	\$ 40,000
EPA Indirect	\$ 60,000
<u>Total Intramural Costs</u>	<u>\$100,000</u>
<u>Estimated Total Project Ceiling</u>	<u>\$950,000</u>

C. Contribution to Remedial Performance

EPA is not currently considering the United Chemical Technologies, Inc. Site for proposal onto the National Priorities List (NPL). Since the Site is not currently on the NPL, there is no plan for long-term Remedial Actions at the Site to address the threat to human health. The proposed Removal Action is consistent with accepted removal practices for stabilizing leaking drums and containers of hazardous substances and would contribute to any future Site activities intended to further abate the threat posed to human health. All information obtained during the Removal Action will be forwarded to the Site Assessment Section for use in consideration for proposal to the NPL.

D. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

The proposed Removal Action set forth herein will comply with all applicable or relevant and appropriate environmental requirements to the extent practicable considering the exigencies

AR100028

of the situation.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

A delay in action or no action at this Site would not address the existing fire and explosion threat and the threat currently posed to residents via ingestion and inhalation of hazardous substances which would be released during fire and explosion at the facility. Additionally, delayed action would allow continued potential for migration of hazardous substances into area waterways and ground water.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues pertaining to this Site.

VIII. ENFORCEMENT

The EPA Removal Enforcement Section has been provided with all background information available to pursue any and all Enforcement Actions pertaining to the United Chemical Technologies, Inc. Site (see attached Confidential Enforcement Addendum).

IX. RECOMMENDATION

Because conditions at the United Chemical Technologies, Inc. Site meet the NCP criteria (40 CFR 300.415) for a Removal Action, I recommend your approval of this funding request of \$750,000. The Estimated Total Project Ceiling for this Removal Action is \$950,000, of which approximately \$850,000 are Extramural Costs. Please indicate your approval or disapproval by signing below. I recommend your approval to initiate response actions because of the nature of the threats described herein.

APPROVED: _____

DATE: June 27, 1984

DISAPPROVED: _____

DATE: _____

Attachments: Confidential Enforcement Addendum

AR100029